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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/670,418

09/26/2003

Bong-joo Kim

45713

5728

7590

07/14/2005

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EXAMINER

HAUGLAND, SCOTT J

ART UNIT

PAPER NUMBER

3654

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/670,418

Applicant(s)

KIM ET AL.

Examiner

Scott Haugland

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2 and 5 is/are allowed.
- 6) ☒ Claim(s) 1, 3, 4, 8, 10 and 12 is/are rejected.
- 7) ☒ Claim(s) 9, 11 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Godwin, Jr. et al (U.S. Pat. No. 4,494,712).

Godwin, Jr. et al discloses a reel clutch in a reel disc assembly having a reel gear 60' and a reel disc 66. The clutch comprises a plate spring 64 positioned between the reel gear 60' and the reel disc 66 and a stopper reel (40 and upper portion of 50') engaged with the reel disc 66. The stopper reel urges a central portion of the plate spring 64 upward (as viewed when the device is upside down relative to the view shown in Fig. 6) due to its connection with 40, 50' and spring 58. The reel disc 66 and outer rim of the plate spring are in frictional engagement. There is an annular rib on the lower surface (top in Fig. 6) of the reel disc 66 that contacts the outer rim of the plate spring.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Godwin, Jr. et al in view of Hong et al (U.S. Doc. No. 2002/0070304).

Godwin, Jr. et al is described above.

Hong et al teaches forming plate spring 70 with one or more slits (between legs 75) in a predetermined pattern to provide the spring with axial flexibility and elasticity.

It would have been obvious to one having ordinary skill in the art to provide Godwin, Jr. et al with a plate spring having one or more slits in a predetermined pattern to provide the required resilient biasing force between the reel gear and reel disc.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Godwin, Jr. et al in view of Katahira et al (U.S. Patent No. 3,913,868).

Godwin, Jr. et al is described above.

Godwin, Jr. et al does not disclose lubricant interposed between the reel disc and the plate spring.

Katahira et al teaches providing lubricant 38, 40 between relatively rotating engaging surfaces of a tape reel drive assembly to control the torque transmitted to a driven tape reel during slippage between the surfaces (col. 3, lines 45-65).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Godwin, Jr. et al with lubricant interposed between the

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reel disc and the plate spring as taught by Katahira et al to improve the control of the torque transmitted to the tape reel, e.g., by preventing excessively high torques before slippage occurs between the clutch elements.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Godwin, Jr. et al.

Godwin, Jr. et al is described above.

Godwin, Jr. et al does not disclose a plurality of locking protrusions formed on an inner circumference of the reel gear.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the recess in the reel gear 60' that receives a projection of element 90 with a locking protrusions (e.g., splines) to facilitate formation of a positive drive connection between reel gear 60' and element 90 since it is old and well known to provide shaft portions that are to be drivingly connected with locking protrusions to provide a positive, nonslip drive connection between them.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Godwin, Jr. et al in view of Primosch et al (U.S. Pat. No. 3,921,220).

Godwin, Jr. et al is described above.

Godwin, Jr. et al does not disclose a light receiver/emitter sensor for detecting the rotational status of the reel gear.

Primosch et al teaches providing a reel assembly with a light receiver/emitter sensor 34, 35 to determine the rotational status of the reel assembly.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Godwin, Jr. et al with a light receiver/emitter sensor as taught by Primosch et al to determine the rotational status of the reel assembly (which includes integral reel gear 60') since Primosch et al suggest the use of such a sensor to enable appropriate control over the reel and tape drive apparatus of which it is a part.

Allowable Subject Matter

Claims 2, 5, and 6 are allowed.

Claims 9, 11, and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicants' arguments filed 4/29/05 have been fully considered but they are not persuasive.

Applicants argue that none of the cited references disclose the limitation that the reel disc and the outer rim of the plate spring come into contact with each other to generate a torque by friction.

However, the reel disc 66 and the outer rim of the plate spring 64 of Godwin, Jr. et al come into contact with each other. A torque is generated by friction to transmit

driving force between the reel disc 66 and spindle 24'. There is friction between the outer rim and reel disc 66 due to the contact and there is friction between spring 64 and clutch pad 62. The contact between the outer rim of the plate spring 64 and the reel disc 66 generates a torque by friction due to the friction inherent in the contact between spring 64 and reel disc 66 and since the contact provides pressure between spring 64 and clutch pad 62 to provide friction sufficient to transmit torque to spindle 24'.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. The addition of the limitation to claim 1 that the reel disc and the outer rim of the plate spring come into contact with each other necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Haugland whose telephone number is (571) 272-6945. The examiner can normally be reached on Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy Matecki can be reached on (571) 272-6951. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


sjh
7/7/05



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